

10039889-101901

What Is Claimed Is:

1. A fluid application system for vehicle comprising:

a fluid source;

a pump in fluid communication with said fluid
5 source;

a spray unit including a nozzle in fluid communication with said pump;

a sensor adapted to output a vehicle detection signal; and

10 a controller in operative communication with said sensor and said pump, said controller adapted to receive said vehicle detection signal, delay a first time period, and activate said pump for a second time period to deliver said fluid source by way of said
15 spray unit to a detected vehicle as a function of said vehicle detection signal.

2. A fluid application system according to claim 1 wherein said fluid source comprises first and second fluid sources in fluid communication with said
20 pump, said pump adapted to receive said first and second fluid sources and communicate a mixture of said first and second fluid sources to said spray unit.

3. A fluid application system according to claim 1 wherein said nozzle is a rotary nozzle and said
25 pump is a piston-type pump.

4. A fluid application system according to claim 1 wherein said spray unit comprises a boom supporting a plurality of nozzles at a first end, said

boom configured to support said nozzles over a detected vehicle.

5 5. A fluid application system according to claim 4 wherein said sensor is located at said first end of said boom.

6. A fluid application system according to claim 1 wherein said sensor is a light-based sensor.

7. A fluid application system according to claim 5 wherein said sensor is a light-based sensor.

10 8. A fluid application system according to claim 5 wherein said sensor is an ultrasonic sensor directed underneath said first end of said boom and said controller activates said pump as a function of a vehicle profile signal received from said ultrasonic
15 sensor.

9. A fluid application system according to claim 2 comprising a selectable valve between said first fluid source and said pump, said valve responsive to a valve control signal for modifying a flow rate of
20 said first fluid source to said pump.

10. A fluid application system according to claim 9 wherein said valve is operable at two different flow rates and said controller is adapted to output said valve control signal to said valve in response to
25 said vehicle detection signal.

11. A fluid application system according to claim 1 comprising a second sensor for communicating a type of vehicle signal, and said controller is adapted

to activate said pump as a function of said detected vehicle signal and said type of vehicle signal.

12. A fluid application system according to claim 11 wherein said sensor is a light-based sensor
5 and said second sensor is an ultrasonic sensor.

13. A fluid application system for vehicle comprising:

a first fluid source;
a second fluid source;

10 a pump in fluid communication with said first and second fluid sources for delivering a mixture of said first and second fluids;

a spray unit comprising a boom supporting a nozzle at a first end, said boom configured to support
15 said nozzle over a detected vehicle, said nozzles in fluid communication with said pump;

a sensor adapted to output a vehicle detection signal; and

a controller in operative communication with
20 said sensor and said pump, said controller adapted to receive said vehicle detection signal, delay a first time period, and activate said pump for a second time period to deliver said fluid source by way of said nozzle to a detected vehicle as a function of said
25 vehicle detection signal.

14. A fluid application system according to claim 13 comprising a selectable valve between said first fluid source and said pump, said valve responsive to a valve control signal for modifying a flow rate of
30 said first fluid source to said pump.

15. A fluid application system according to claim 14 wherein said valve is operable at first and second flow rates and said controller is adapted to output said valve control signal to said valve in response to said vehicle detection signal such that first and second ratios of first and second fluid mixtures is delivered to said nozzles.

16. A fluid application system according to claim 15 wherein said vehicle detection signal includes a type of vehicle indicator.

17. A fluid application system according to claim 15 wherein said boom includes first and second fluid conduits between said pump and said nozzle, said first fluid conduit for communicating said first ratio of fluid mixture and said second conduit for communicating said second ratio of fluid mixture.

18. A fluid application system according to claim 13 wherein said first time period is between approximately 3 and 10 seconds.

19. A fluid application system according to claim 18 wherein said second time period is between approximately 15 and 90 seconds.

20. A fluid application system according to claim 13 comprising three nozzles.

21. A fluid application system according to claim 20 wherein each of said nozzles are rotating nozzles.

22. A fluid application system according to claim 13 wherein said first and second fluid sources each include a reservoir.

23. A fluid application system according to
5 claim 13 comprising a second sensor for communicating a type of vehicle signal, and said controller is adapted to activate said pump as a function of said detected vehicle signal and said type of vehicle signal.

24. A fluid application system according to
10 claim 23 wherein said sensor is a light-based sensor and said second sensor is an ultrasonic sensor.

25. A fluid application system according to claim 13 wherein said first fluid source, pump, and controller are mounted on a portable structure and said
15 spray unit boom, at a second end, is connected to said portable structure.

26. In a fluid application system including a controller, pump and spray unit, a method of applying a fluid mixture to a vehicle comprising:
20 receiving a vehicle detection signal from a first sensor indicating the presence of a vehicle under said spray unit;
delaying a first time period;
activating said pump for a second time period
25 to deliver a mixture of first and second fluids from respective first and second fluid sources to said spray unit as a function of said vehicle detection signal.

10039889.10604

27. A method according to claim 26 further comprising delaying a third time period before receiving another vehicle detection signal.

28. A method according to claim 26 wherein
5 said second time period is a function of a profile of said detected vehicle signal.

29. A method according to claim 26 wherein
said first time period is between approximately 3 and
10 seconds and said second time period is between
10 approximately 15 and 90 seconds.

30. A method according to claim 26 further
comprising setting a valve, in-line with said first
fluid source and upstream of said pump, to a selectable
position to provide a predetermined fluid mixture ratio
15 to said spray unit.

31. A method according to claim 26 further
comprising receiving a vehicle profile signal from a
second sensor and wherein activating said pump includes
activating said pump as a function of said vehicle
20 detection signal and said vehicle profile signal.

32. A method according to claim 31 wherein
activating includes, when said vehicle detection signal
indicates the presence of a vehicle under said spray
unit and said vehicle profile signal indicates an
25 object between approximately 4 and 5.5 feet above a
ground level, turning on said pump.

33. A fluid application system for vehicle
comprising:

a fluid source;

a control valve in fluid communication with
said fluid source;

a spray unit comprising a boom supporting at
5 least one rotary nozzle at a first end, said boom
configured to support said nozzle over a detected
vehicle, said nozzles in fluid communication with said
control valve;

a sensor adapted to output a vehicle
10 detection signal; and

a controller in operative communication with
said sensor and said control valve, said controller
adapted to receive said vehicle detection signal, and
activate said control valve to deliver said fluid
15 source by way of said rotary nozzle to a detected
vehicle.

34. A fluid application system according to
claim 33 wherein said fluid source comprises a first
and second fluid sources in fluid communication with
20 said control valve, said control valve responsive to a
control signal for communicating a mixture of said
first and second fluid sources to said spray unit.

35. A fluid application system according to
claim 34 comprising a selectable valve between said
25 first fluid source and said control valve, said
selectable valve responsive to a valve signal for
modifying a flow rate of said first fluid source to
said control valve.

36. A fluid application system according to
30 claim 35 wherein said selectable valve is operable at

first and second flow rates and said controller is adapted to output said valve signal in response to said vehicle detection signal such that first and second ratios of first and second fluid mixtures is delivered to said nozzles.

37. A fluid application system according to claim 36 wherein said boom includes first and second fluid conduits between said control valve and said nozzle, said first fluid conduit for communicating said first ratio of fluid mixture and said second conduit for communicating said second ratio of fluid mixture.

38. A fluid application system according to claim 33 comprising three rotary nozzles.

39. A fluid application system according to claim 33 wherein said at least one rotary nozzle is an oscillating nozzle.

40. A fluid application system according to claim 33 wherein said fluid source, control valve and controller are mounted on a portable structure and said spray unit boom, at a second end, is connected to said portable structure.